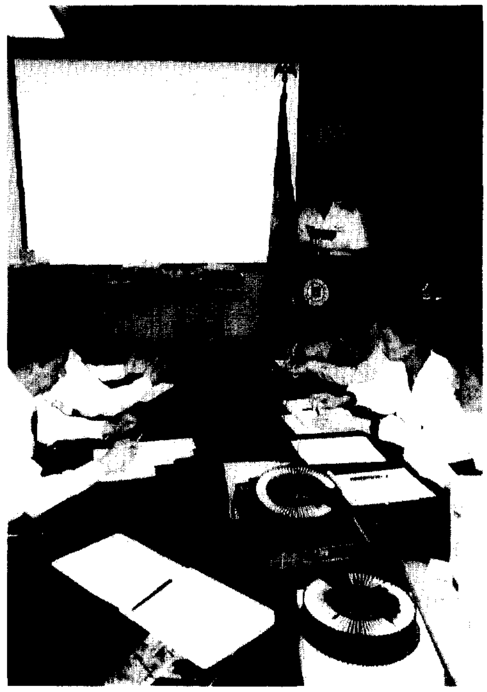
The study team consisted of Mr. Mao Guanghua, Deputy Harbor Master, Shanghai Harbor Superintendency Administration; Ms. Zeng Hui, Comprehensive Planning Department, Ministry of Communications, Beijing; Mr. Xu Junchi, Vice Chief of Division, Tianjing Harbor Superintendency Administration (who served as interpreter); Mr. Mo Qi, Vice-Chief of Division, Guangzhou Harbor Superintendency Administration; Mr. Song Zhen, Maritime Safety Administration, Ministry of Communications, Beijing; and Mr. Han Shimin, Port of Dalian Harbor Superintendency Administration.

The group spent almost four weeks in the United States, but even that amount of time required compressed schedules and travel time in order to understand the whole picture of how the United States merchant marine operates. Their travels would include stops in New York; Washington, D.C.; Martinsburg, West Virginia; Clarksburg, Maryland; Yorktown, Virginia; and San Francisco, California.



CDR Robert Abair, Chief, Rescue Coordination Center (RCC) New York, lectures on air, sea and technological assets available to rescue controllers.

Chief Warrant Officer David Umberger illustrates the areas of responsibility of the U.S. Coast Guard's Vessel Traffic Service (VTS) New York.

AMVER's Rick Kenney explains system operations.

Marine Licensing Procedures are explained during a visit to the New York Regional Examination Center.

Working Sessions on Governors Island

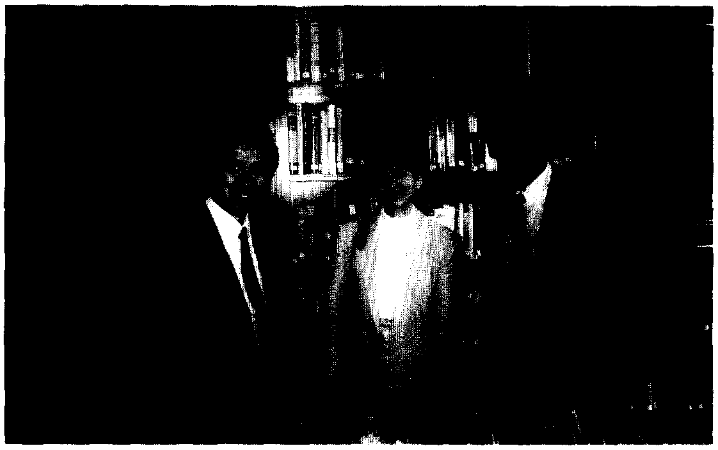
A Station New York crew member expl[illegible]ns the operations of a typical small boat station.

Around New York Harbor

Chinese visitors strike a pose during their visit to the U.S. Merchant Marine Memorial located in New York harbor.

Group members joined the festivities at the Asian-Pacific American Heritage Luncheon on Governors Island, an event which highlights the contributions of Asian-Pacific immigrants to American culture, traditions and the arts.

Capt Liu translates a warm greeting from Mr. Mao to RADM Douglas Teeson, Commander of the U.S. Coast Guard's Maintenance and Logistics Command, Atlantic.



CAPT Liu and Mr. Mao are welcomed by the Rev. Jean Smith, Director of Seafarers' Services at the Seamen's Church Institute. Rev. Smith offered the services of the New York City and Port Newark facilities to Chinese crewmembers.

CAPT William Douglas (second from left) provided a tour of the Institute's New York headquarters, to include a stop at Santa's Workshop, where volunteers knit scarves, caps and mittens to be distributed as gifts to mariners at sea over the Christmas holiday.

Mr. Paul Preus (center), Past President of the Maritime Association of the Port of New York/New Jersey, discussed the history and mission of the 100-year old organization at its New York offices.

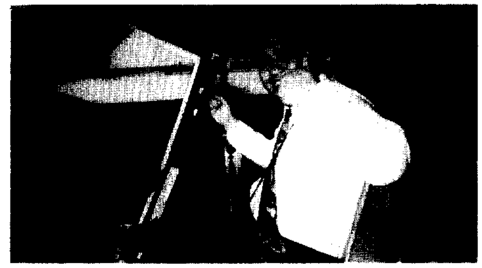
Swapping sea stories with an old timer!

Meeting With Industry!

Mr. Mao takes a cue from a retired mariner in the lounge at the Institute.

At a luncheon reception hosted by the Maritime Association to welcome the delegation, Mr. Han (left) and Mr. Mao engage in a lively discussion in Chinese with CAPT L.C. Wang, President of Hanover Marine Carriers, located in Weehawken, New Jersey.

All Aboard! An HH-65 Search and Rescue helicopter serves as a backdrop to record the visit of the study team to the U.S. Coast Guard Air Station, located at Floyd Bennett Field, Brooklyn, New York.



Mr. Song Zhen gives a "thumbs up!" from the pilot's seat.

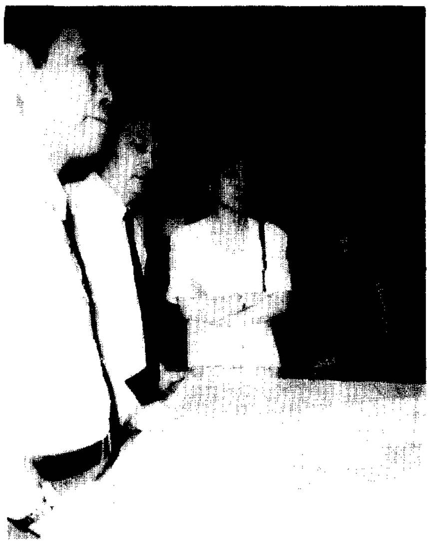
Safety On Land, Sea And Air!

Chief Aviation Survivalman Jim Sherman demonstrates equipment used by Coast Guard rescue swimmers. The visit to Air Station Brooklyn was hosted by the Commanding Officer, CDR Thomas King and his wife, Karen, who is of Chinese descent, and assisted in interpreting.

Chief Sherman explains rescue swimmer procedures to an intent audience of Mr. Song (Left), and the interpreter, Mr. Xu.

On board the tanker training vessel at the State University of New York Maritime College, located at historic Fort Schuyler in the Borough of the Bronx.

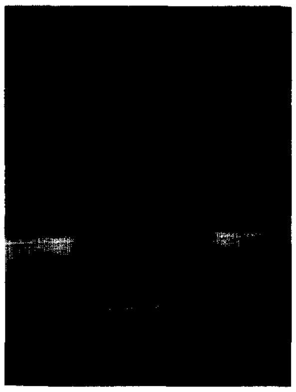
An opportune visit to the New York City Fire Department's Hazardous Materials Unit, which was training in marine oil spill containment procedures at the New York State Maritime Academy, Fort Schuyler.



All eyes are on the charts at Fort Schuyler's Radar and Navigation classroom.

CAPT Robert Safarik, External Affairs Officer of the U.S. Merchant Marine Academy at Kings Point, New York describes the missions and course of study at the federal Maritime School.

Back To School!



(Right) No visit to Fort Schuyler would be complete without a stop at the school's new simulator.

(Left) Ms. Zeng takes the simulator's helm.

Accompanied by a graduating deck cadet the group paused during a tour of Fort Schuyler's diesel machinery control panel.

Chinese visitors muster on the symbolic memorial quarterdeck of the Administration Building at Kings Point. Graduating Midshipman Richard Hsu provided translation and the benefit of his experience over four years of training for a merchant marine license.

AMVER News Round-Up

First 25-year Awards Presented To U.S. Ships

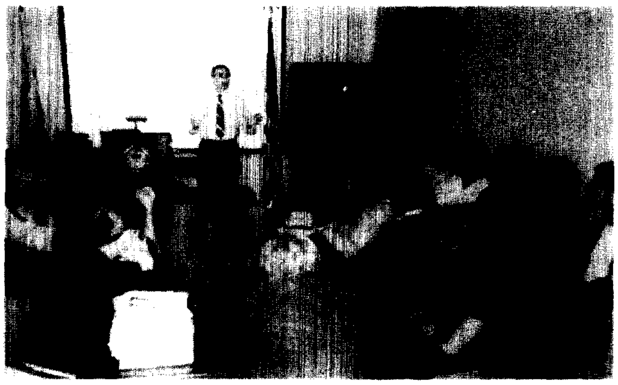
U. S. Coast Guard Captain of the Port of Houston, CAPT Richard E. Ford, presents the first of three 25-Year AMVER participation awards to Mr. August "Gus" Elmer, *President,* **SeaRiver Maritime, Inc.** at a reception at the company **headquarters in Houston.**

(Photos Courtesy SeaRiver Maritime, Inc.)

CAPT. Ford and Mr. Elmer are joined by Ocean Fleet Manager Dwight Koops (left). SEARIVER BATON ROUGE, SAN FRANCISCO *and* PHILADELPHIA *were 25-Year* Winners. Mr. Elmer holds a 15-Year plaque for the S/R BENICIA.

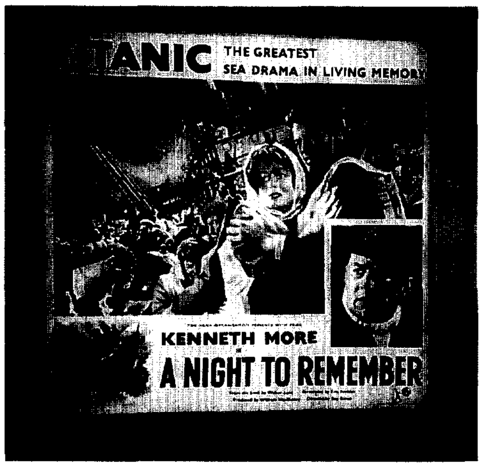
Mr. Andreas Deligiannis, Head of Shipping Relations, **European Union Section, Greek M**inistry of Merchant Marine, **(left) is welcomed by members of** the Maritime Association of **the Port of New York/New Jersey** at a reception following his **visit to the AMVER** Maritime Relations Office as part of an **international** *maritime study group*

Youthful Enthusiasm!



Wide-eyed interest in AMVER *expressed by students of the* Maritime Studies Program of Williams College at Mystic Seaport in Connecticut is infectious as AMVER's Rick Kenney responds to questions during their visit to the *Governors Island office.*

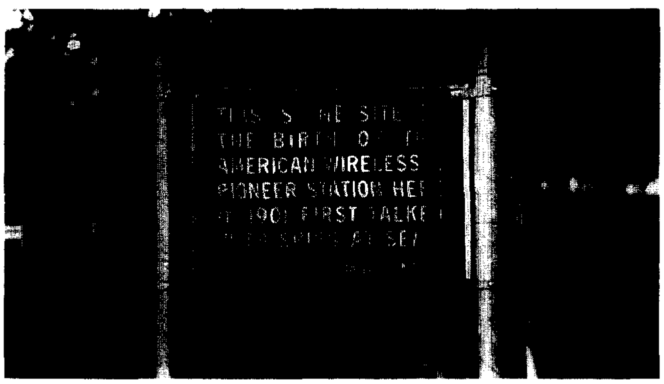
World's Most Famous Survivor!



Poster for movie that immortalized the world's most famous disaster at sea set the scene for the appearance by its youngest survivor.

School children from New Jersey surround 83-year-old Millvina Dean, who as a 9-week-old baby survived the sinking of the TITANIC in 1912. Mrs. Dean addressed the students while attending the fifth annual convention of Titanic International Inc. of Freehold, a non-profit group devoted to promoting historical interest in the maritime tragedy.

A Pioneer's Daughter



(Photo courtesy of the Maritime Reporter)

AMVER's Rick Kenney poses with Gioia Marconi Braga, daughter of Guglielmo Marconi, the inventor of the wireless radio. Both were speakers at the 70th Annual Banquet of the Veteran Wireless Operators Association, Inc. (VWOA). Mrs. Braga recounted that the young Marconi children would "make fun" of their father while he tested his inventions!

First Russian Graduates!

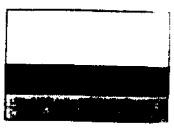
Four students from the Russian Federation became the first students from the former Soviet Union to attend and graduate from a United States Service Academy when they joined the 219 members of the Class of 1995 of the U.S. Merchant Marine Academy in ceremonies at Kings Point, New York. (From Left to Right): Dmitri Bezroukov, Alexey Mironov, Konstantin Vassiliev, and Sergey Apanovich.

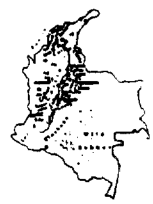
(Photo courtesy U.S. Merchant Marine Academy.)

News From The U.S. Embassy BOGOTA, COLOMBIA

¿A que obedece su visita a Barranquilla?

- Vengo aca dentro de un programa de viajes para ver al sector privado, reunirme con el Gobernador, con el Alcalde para tener contact y tambien darle unos nas que participan en un sistema mundial que se llana AMVER (Sistema Automatizado de Asistencia Mutua de Rescate). Ese sistema es que si hay un barco, por ejemplo, que esta zozobrando en alta mar se contactan a los buques que estan en la vecindad y van a ayudarlo. Hay muchos barcos colombianos que participan en eso; es un gran servicio a la humanidad.





AMVER Award winners pose following ceremony held in Barranquilla. From left to right: Consul General Marvin Brown of Barranquilla; Dr. Gabriel Martinez Aparicio, Director of Agramar; Dr. Ernesto Suarez Flores, Legal Advisor, Agromar; U.S. Ambassador Myles R. R. Frechette; Dr. Juan Manuel Ruiseco Guitierrez, Tranmaritima Caribe; Captain Fernando Preciado, Rio Atraco; Antonio Felfle Montalvo, Director, Tranmaritima Caribe; and CDR Robert McCarthy, United States Coast Guard.

The original distress was sent by the R.O. in morse code on 500 KHz by a Canadian C.G. station who then put it on the GMDSS system. S.B.

Rescued Crewman's Face Says It All!

Ukranian merchant seaman Oleksandr Taranov embraces Rescue Swimmer Tech Sgt James Doherty of the 106th Air Rescue Group, New York Air National Guard, to show his appreciation for the pararescueman's assistance in storm-tossed waters to prepare the 240-pound survivor for hoist to a hovering helicopter. Taranov was one of only two survivors from the crew of 31 aboard the sunken bulk carrier SALVADORE ALLENDE. A flotilla of 41 AMVER ships from 18 nations converged on an area 750 miles off the coast of Nova Scotia over a six-day period to search for survivors.

Is there room in that chopper for one more? The burly crewman is hoisted up to safety.

(Photos courtesy SIKORSKY LIFELINE MAGAZINE)

The second survivor of the ALLENDE was rescued from 40-foot seas in 50-knot winds by the Japanese tanker M/V TORUNGEN, earning the AMVER ship the 1994 International Rescue At Sea Award, sponsored by Lloyds of London Press. The presentation was made at the "Night of Heroes" awards dinner in New York City by Transit Police Officer Denfield Otto, hero of a subway bombing, to the Economic Consul from the Japanese Consulate in New York, Mr. Masami Otani, representing the ship's owners. (USCG Photo)

False Alerts!

Threatening The Maritime SAR System

Based on a papaer presented to the Safety At Sea and Maritime Electronics Conference in Baltimore, Maryland during April 1995.

By Mr. Dan Lemon
U. S. Coast Guard Headquarters, Search and Rescue Division, Washington, D.C.

Last summer the U. S. Coast Guard received a 406 MHz EPIRB alert from a ship of an Asian flag state 200 miles from the Federated States of Micronesia. (An EPIRB is an Emergency Position - Indicating Radio Beacon, usually designed to float free and send a distress alert when a ship sinks.) The response effort involved a privately chartered aircraft which cost the Government of Palau $1500 US, a fishing vessel, and another ship. Also, a Coast Guard C-130 aircraft diverted from another SAR case, flying 8.9 hours, and consuming 5880 gallons of fuel. The vessel refused to communicate with any of the units responding. When the C-130 dropped a message onto the vessel asking it to turn off the EPIRB, it complied, but turned it back on as soon as the aircraft was out of sight. Over 100 hours of rescue coordination center (RCC) time was consumed just planning and coordinating response to this apparently deliberate false alert.

In October, we received a Digital Selective Calling (DSC) alert from a vessel in distress in Russia's SAR region. Both the United States and Japan worked with RCC Vladivostok for about 24 hours before the vessel was identified and determined to not be in distress.

Until recently, RCC's were reasonably sure that most calls for help were genuine, since most of these calls were by voice. Therefore, the search and rescue (SAR) system would respond as quickly as it could to provide assistance, often placing the lives of SAR personnel at risk in the process. However, the ability to promptly respond when every minute is often critical is sometimes undermined by the number of daily false distress signals now received.

RCC's can no longer assume that a cry for help is real, especially with automated non-voice alerts. This tends to affect principles under which rescuers have operated for hundreds of years. While GMDSS offers benefits of technological advancements, we have been naive in designing the system, and need to act quickly to get it on a course for success.

What is a false alert? A false alert is any distress alert transmitted for any reason when a real distress situation does not actually exist. Most such alerts are inadvertent, and can usually be traced to equipment problems or human error. A few, however, are hoax calls, which are made easier by GMDSS equipment that is not properly registered. Many are from non-GMDSS sources, especially in the 121.5 MHz frequency band.

The total number of GMDSS alerts can tax the ability of rescue services to respond by taking time and attention away from real emergencies. Though the SAR system attempts to treat every alert as genuine until it is known to be otherwise, the perceived urgency of each call tends to wane as alerts turn out to be false over and over again.

False alerts obstruct efficient and effective SAR services. GMDSS was developed to provide, among other things, essential communication elements of a global SAR system. However, with a recent typical false alert rate of around 90% for satellite EPIRB alerts, and poor reliability of non - GMDSS alerting systems, the interests of neither the SAR system nor mariners are well served.

False alerts

- **Cause delays which may cost li es and prolong or worsen human suffering**

- **Adversely affect seafarer safet**

- **Waste limited resources**

- **Erode confidence of both seafa rs and SAR personnel**

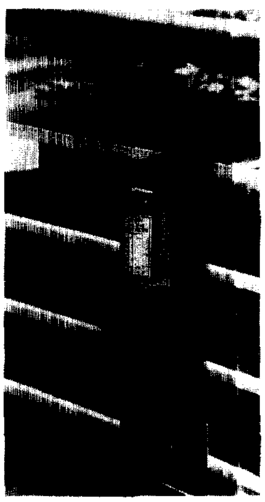
- **Divert SAR facilities, making th em less available should a real distress situation a rise**

- **Congest and drive up the costs f communications**

One typical case involved a phon call reporting that an aircraft had heard an alert on 121.5 M z. After dispatching a boat and helicopter to the scene, the elicopter determined the position of the signal source, an the boat located the vessel tied up with its EPIRB energize nside a locked cabin. The owner had to be located to deact ate the EPIRB. Surface and air assets, as well as RCC p sonnel, spent over 5 hours on this case. Such cases are s numerous that they hurt our readiness to respond.

Cases like this which involve a pro erly registered satellite EPIRB, however, can usually be r solved simply with a phone call. So it is very important tha Administrations ensure that GMDSS equipment aboard hips of their flag is properly registered, and that registratio data is readily available to SAR personnel.

Most GMDSS false distress alert are caused by inadequate equipment designs and by hum error. The problem is not confined to any one GMDSS s stem. Inmarsat - A, Inmarsat - C, Digital Selective Calling DSC) and Cospas - Sarsat EPIRBs are all causing trouble. Inmarsat - C and satellite EPIRB systems have a greater proportion of false alerts only because they have penetrated the GMDSS market more.



Inadvertent misuse of the equipment may be partly related to equipment design. For example, distress alerts have been sent by the software of some Inmarsat - C terminals without the operator being aware. Sometimes this happens when an officer transfers to a ship with different equipment than has been used before. The user may accidently hit the "return" key at a time when it automatically sends an alert. The equipment may not pause to ask, "Are you sure you want to send a distress alert?"

The U. S. Coast Guard received a DSC alert at one of its stations in the northeastern United States. RCC Falmouth and RCC Fort de France also received the alert and inquired about its status; both had information that the vessel was supposedly underway off the coast of France. The Rescue Subcenter in San Juan contacted authorities in nearby Trinadad and Tobago, who, after some time, found the ship in a dry-dock. The signal, which was hard to trace because the equipment was improperly registered, had been accidently transmitted during an equipment test.

Bumpy landings at airports inadvertently set off EPIRB's in tails of commercial aircraft. Many false alerts occur at busy major airports around the world.

One false alert was finally traced to uncommissioned equipment at the manufacturer's factory in France.

EPIRBS often are removed from mounting brackets and set on the deck. These two actions together typically activate the EPIRB. But sometimes equipment seems to malfunction all by itself.

Several intermittent Cospas - Sarsat alerts on 121.5 MHz were tracked by aircraft to a shipyard in Washington State. We also received relays of this signal from several high flying aircraft. It turned out to be from a 406 MHz EPIRB properly mounted aboard a fishing vessel and correctly set in the "armed" position. However, even after the EPIRB was turned off, it continued to transmit, and had to have its battery removed to secure the signal. Water leakage into the unit apparently caused this malfunction. Feedback to the manufacturer resolved this problem.

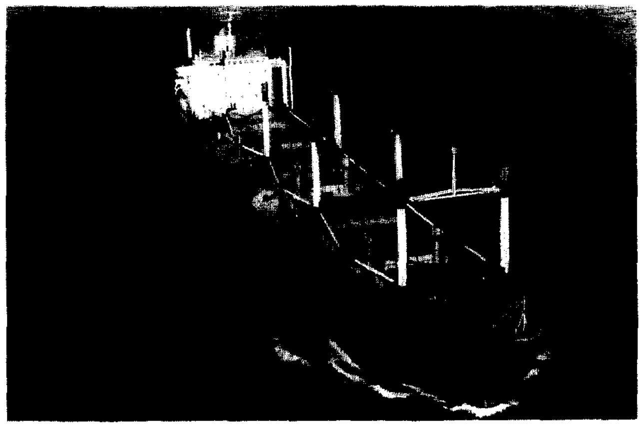
There have been many cases of EPIRB malfunction, but they are becoming less frequent, mostly due to feedback on problems to equipment manufacturers which resulted in design improvements. During the third quarter of 1994 (latest available statistics), the percentage of satellite EPIRB alerts that were false fell by ten percent. We are optimistic that these improvements will continue as steps are implemented to bring the situation under control. Similar national and global initiatives will be necessary to reduce false alerts from other GMDSS equipment. The 1994 distribution of alerts received for 406 MHz beacons is shown below. The record for 121.5 MHz beacons is much worse.

Cospas - Sarsat 406 MHz Alert History
(Nature of alerts as percentage of total)
1 October - 30 September 1995

	All RCCs	U.S. RCCs
Distress	9.4	10.4
Unknown	22.1	19.3
Nondistress:	68.5	70.2
Bracket Failure	9.1	10.1
User Error	41.9	40.0
Beacon problem	22.2	22.9
Testing	9.6	8.7
Other	17.3	17.5

Inmarsat - C false alerts apparently sometimes result when the operator is distracted during a performance verification test. In the test phase, the operator may be asked to send a test distress alert. The equipment would not normally actually send such alerts. However, if the test time expires while the operator is distracted or called away during the test, when the test is resumed, a real alarm may be transmitted creating even more confusion.

The Coast Guard AMVER system tracks about 13,000 ships from over 130 countries worldwide annually, about 2700 on a typical day, which voluntarily report their sail plans so they can be more easily used to assist other mariners in distress. While the masters of these vessels are legally obligated to provide such assistance when they can, and have participated in saving over 700 lives worldwide in 1994, diverting them is costly to their shipping companies. GMDSS false alarm problems understandably make ships less inclined to participate in the system, or to respond to



The cost of diverting an AMVER participating ship can range from $15,000 to $30,000 per day!

calls for help. If faith in the system is lost, it will be very hard to restore.

When RCC Honolulu received an Inmarsat C alert in the Pacific regarding an unspecified distress situation, it diverted two merchant ships to assist. Providing such assistance is very costly for shipping companies. In this case, Singapore Radio was later able to contact the vessel and determine that it was safe in a Singapore port.

We devoted 5.7 hours of C - 130 aircraft time, and 7 hours of diversion time for a merchant ship, responding to an Inmarsat C alert 350 miles east of Guam. The 9 digit Inmarsat C number was apparently invalid, and we were unable to contact the ship or its owners. Not until the rescue units arrived on scene were we able to learn from the vessel that it was not in distress, and that the alert had been due to human error. The flight time would have exceeded 20 hours had we not been able to divert the aircraft during a return flight. This case was in the Central Pacific, with the vessel owners in Hong Kong, and the Coast Earth Station involved in Australia. Different time zones are another factor which hurts availability of people to verify information. This was another false alert case involving expensive diversion of a merchant ship, which proper equipment identity could have avoided.

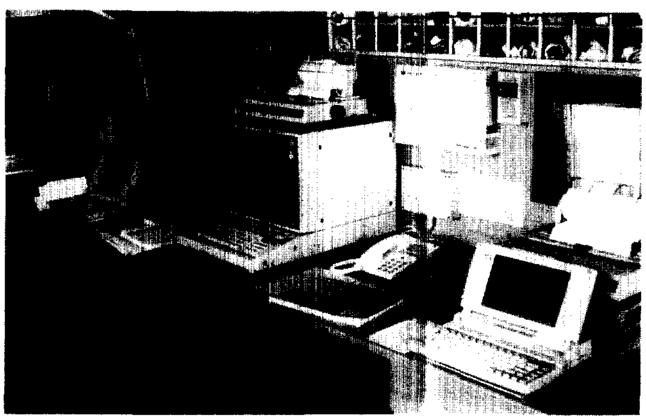
Problems with responding to false alerts are compounded when the ship which appears to be in distress fails to respond to attempts to contact it.

We do not know why ships do not answer distress calls over GMDSS. Are they securing their communication due to the high number of urgent calls they receive? If so, this may be the worst effect of GMDSS false alerts, degrading GMDSS credibility and viability and reducing safety at sea.

A similar problem occurs when other vessels near an actual distress do not respond to calls from SAR authorities seeking to arrange assistance. We do not know why ships do not answer distress calls over GMDSS. Are they securing their communication due to the high number of urgent calls they receive? If so, this may be the worst effect of GMDSS false alerts - degrading GMDSS credibility and viability and reducing safety at sea.

On November 26, 1994, RCC Hong Kong received an alert from an EPIRB about 240 miles offshore. The call sign was used to identify the ship, and an alert was relayed to ships in the vicinity via NAVTEX. When no one responded, an aircraft was launched, the vessel was located, and we learned that the alert had resulted from a test. The cost of that response was over $4,300 US. The ship had received the NAVTEX relay of its own EPIRB alert, and was not even aware of it! Was this a training problem, an equipment problem, a compounded symptom of too many false alerts, or just careless watchstanding?

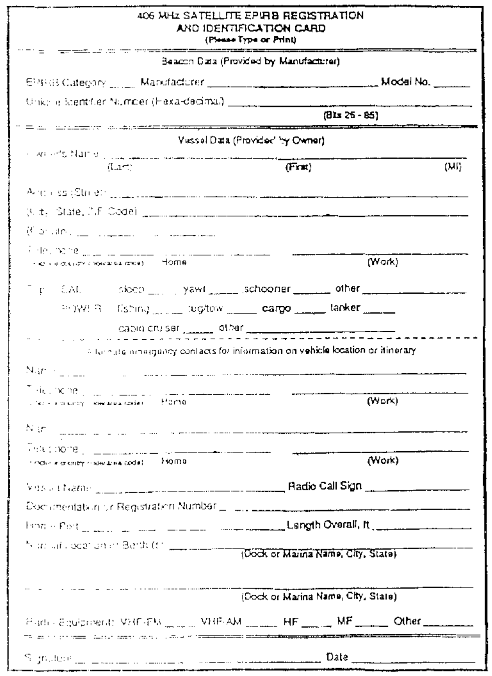
Earlier in the year the U.S. Coast Guard received a distress call from a sailing vessel hundreds of miles southwest of Los Angeles. We knew that a GMDSS-equipped cruise ship was nearby, but could not get an acknowledgment from it by any means of communication, including Inmarsat. Finally, we were able to contact a fishing vessel which was able to contact the ship on Channel 16, and arrange for it to assist the sailing vessel. It is unclear why the ship did not respond.



Unfamiliarity with different models of GMDSS equipment, or sending a real alert after test time expires are causes of false alerts.

Another problem arises when shipboard personnel are unfamiliar with how to use GMDSS equipment to call the SAR system for help. This is a training problem, and the results can be costly. The following example involved an actual need for assistance, but the means used to call for help was misleading.

Not knowing how to use the GMDSS equipment to arrange for medical evacuation of an injured crewmember, a crew resorted to activating an EPIRB. We responded with one Coast Guard and one Navy fixed-wing aircraft. When finally contacted by the SAR facilities on scene, the master revealed the nature of the problem. Of course, the fixed-wing aircraft we had dispatched could not do an evacuation. However, the resource time, including time spent by the RCC, which already totaled 59 hours for personnel, 19.7 hours for the Coast Guard aircraft, and 1.6 hours for the Navy aircraft, cost over $19,000 US. If the crew had used appropriate equipment to contact us, delay in assisting the injured crew member, and all this wasted cost, could have been avoided.



406 MHz SATELLITE EPIRB REGISTRATION
AND IDENTIFICATION CARD
(Please Type or Print)

Beacon Data (Provided by Manufacturer)

EPIRB Category ____ Manufacturer ________ Model No. ____
Unique Identifier Number (Hexa-decimal) ________
(Bits 26 - 85)

Vessel Data (Provided by Owner)

Owner's Name ________
(Last) (First) (MI)
Address (Street) ________
City, State, ZIP Code ________
Telephone ________ Home ________ (Work)
SAIL sloop ____ yawl ____ schooner ____ other ____
POWER fishing ____ tug/tow ____ cargo ____ tanker ____
cabin cruiser ____ other ____

Alternate emergency contacts for information on vehicle location or itinerary

Name ________
Telephone ________ Home ________ (Work)
Name ________
Telephone ________ Home ________ (Work)
Vessel Name ________ Radio Call Sign ________
Documentation or Registration Number ________
Home Port ________ Length Overall, ft ________
________ (Dock or Marina Name, City, State)
________ (Dock or Marina Name, City, State)
Radio Equipment: VHF-FM ____ VHF-AM ____ HF ____ MF ____ Other ____
Signature ________ Date ________

Another costly situation stems from tracking down alerts from vessels with unregistered or misregistered equipment.

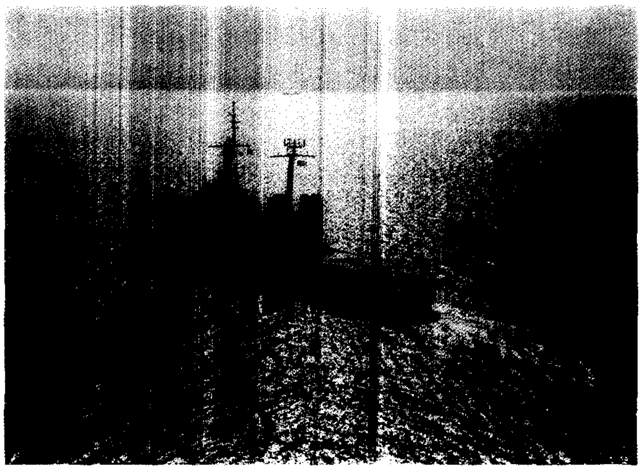
The U. S. Coast Guard responded to an alert from unregistered GMDSS equipment centered in the Gulf of Mexico. A Falcon jet from Mobile spotted debris and an oil slick that could have been associated with a marine casualty, but no persons in the water. The aircraft dropped a raft with a strobe light and an electronic marker buoy to help relocate the site, and returned for fuel. We launched another jet from Mobile equipped with heat sensors, two helicopters from Mobile, and a C-130 aircraft from the east coast. We got a patrol boat underway from New Orleans, and two Navy vessels operating nearby were diverted to assist. The search continued throughout the night with negative results. The next day, more debris was sighted, but determined not to be associated with any marine casualty. The oil slick could not be relocated. Finally, we learned that the EPIRB aboard a ship in the area had been activated and turned off the night before. Response to this false alert cost thousands of dollars and hundreds of staff hours, which could have been avoided had the EPIRB been registered.

When registration data is inaccurate, the alert is partly false, and when registration data is not readily available, it becomes more difficult to handle false alerts. System discipline needs to improve regarding mandatory registration, keeping registration data updated, and making registration data for GMDSS equipment readily available to RCCs on an international basis.

When we responded to one satellite EPIRB alert in the Pacific, none of the registered points of contact were accurate, and we could not contact the ship. We diverted another ship and launched an aircraft. Each of these assets devoted a costly nine hours to the case. The RCC was referred to and contacted seven different alleged owners of the ship, all with negative results. When the aircraft arrived on scene, we learned that the EPIRB had been taken from its bracket, but that the vessel was not in distress. With accurate registration information, we could have contacted the ship without ever having to launch.

Another time-consuming case involved a false DSC alert from one vessel in the northern Pacific relayed by another ship using TELEX. Several international phone calls to Norway and Japan were needed to identify the vessel and confirm that the alert had been sent accidently.

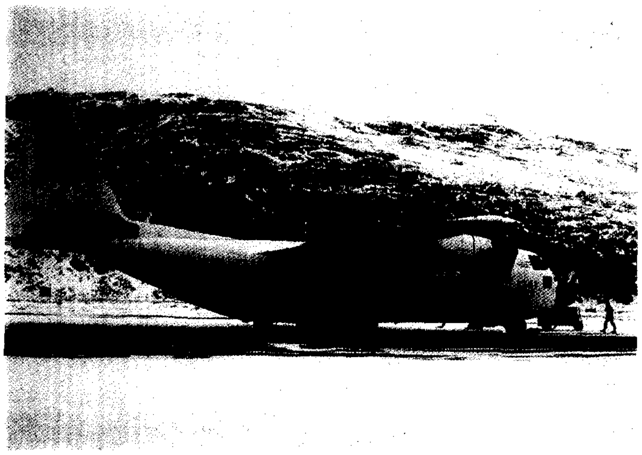
The High Cost of Search and Rescue!



Average U.S. Coast Guard Cutter: $ 974 Per Hour

The total cost of operating Coast Guard facilities for SAR includes personnel, fuel, maintenance, support, and depreciation. For patrol boats and cutters, this ranges from $500 to over $3,000 US per hour, depending on type and size. Each type of aircraft used for SAR costs about $4,000 US per hour of use. A typical utility boat used near shore costs over $300 per hour. One can imagine what it must actually cost a merchant ship to divert to investigate alerts, including profit loss and indirect costs. One company's cost to charter typical tankships runs from $15,000 to $30,000 US per day.

Although the following actual case did not involve a false alert, it can serve as a basis to consider the cumulative effect of false alerts on the SAR system funding.



C-130 Fixed Wing Aircraft: $4,081 Per Hour

HH-65A Helicopter: $3,638 Per Hour

A 406 MHz signal was received from a beacon registered on a tuna seiner 800 nautical miles NW of American Samoa. A SafetyNet alert was issued. After unsuccessful attempts to contact the vessel via radio, a double-crewed C-130 aircraft was launched to investigate, arrived in darkness 7.5 hours later, located the EPIRB and several strobe lights in the water, deployed several rafts and marker buoy, and returned. At daybreak, all 19 crew members, who were in the water (some without life jackets), noticed the rafts and swam to them. They were rescued 34 hours after the initial alert by a fishing vessel. The seiner had sunk after being enveloped by an intense fire.

> **"If a substantive reduction in the number of false alerts is not achieved soon, the quality and efficiency of SAR organizations will be jeopardized for many years to come."**

Cost of a SAR response in high seas areas is not inconsequential. A single such response like the one above is beyond capabilities available to most RCCs. And even for the United States, only a limited number of such responses can be carried out within operating budgets. This could have been another typical inadvertent false alert followed by lack of acknowledgment of attempts to contact the vessel. Not only is it cost prohibitive to routinely launch assets to find out if distress alerts are real, but the false alert problem is compounded by lack of readily available registration data, and inability to contact ships. It would have been realistic at the beginning of the above case to realize that the alert would likely be false (as nearly every GMDSS alert is now), and, for that reason, to abstain from launching costly facilities. Would that not have made 19 people victims of the overall false alert problem?

False alerts cost more than dollars and resources. False alerts divert limited resources that then become unavailable for genuine distress calls. False alerts affect morale. False alerts place the lives of SAR personnel at risk. False alerts undermine the SAR system's ability to save lives and reduce suffering. Receiving too many false alerts seems to erode shipboard attention to messages received. The system created to make the seas a safer place is itself harming the SAR system and the maritime community it was developed to help.

Therefore, as some have discovered, we must:

— Change equipment that is apparently too complicated to use or that makes it too easy to inadvertently send alerts

— Do a much better job of training people involved with the equipment

— Ensure that when false alerts are transmitted, SAR personnel have the information they need readily available to determine that the alert is false without having to launch limited and costly rescue facilities.

An excellent example of an equipment design change that really works is two - condition EPIRB activation. After becoming more knowledgeable about the causes of EPIRB false alerts, it became evident that they could be greatly reduced by requiring that, for a beacon to automatically activate, it be both removed from its bracket and floating in water.

We are optimistic that the trend towards growing numbers of GMDSS false alerts can be turned around if all concerned do their part. DSC poses an awesome threat of worsening the future false alert situation as it comes into widespread use, but work in the EPIRB area is showing signs of paying dividends. In view of sustained efforts to reduce Coast Guard staffing and budget, false alert reduction is an urgent matter.

If a substantive reduction in the number of false alerts is not achieved soon, the quality and efficiency of SAR organizations will be jeopardized for many years to come.

The International Maritime Organization and other organization are seeking to disseminate information on problems which have become evident to rescue service providers. They hope to educate all persons and organizations involved, and gain knowledgeable cooperation in reducing false alerts. Manufacturers, educators, users, communicators, rescue service providers, administrations, and all others concerned, need guidance on how to reduce false distress alerts. Therefore, guidelines are under development to bring to the attention of all concerned.

Guidelines

For Reducing False Distress Alerts:

1. Administrations should

a. Inform shipowners and seafarers about the implications of the rising number of false distress alerts

b. Make critically important provisions for ships to properly register all GMDSS equipment, and to ensure that this registration data is readily available to RCCs

c. Consider establishing or using national violation enforcement measures to prosecute

(1) those who inadvertently transmit a false distress alert without proper cancellation or who fail to respond to a distress acknowledgment due to misuse or negligence

(2) those who repeatedly transmit false alerts

(3) those who deliberately transmit false alerts

d. Use the International Telecommunications Union violation reporting process for false distress alerts, or for failure to respond to a distress alert relayed from shore - to - ship

e. Ensure that ship personnel know about how GMDSS operates, the importance of avoiding false alerts, and the necessary steps to be taken to prevent transmitting false alerts

f. Inform type approval authorities of false alert problems to draw their attention to testing and alerting functions of radio equipment during the type approval process

g. Urge companies installing radio equipment to train relevant ship personnel to ensure they become familiar with operation of the installed equipment

h. Investigate the cause when a specific model of GMDSS equipment repeatedly transmits unwanted alerts, and inform appropriate organizations accordingly

i. Ensure that surveyors and inspectors are informed about GMDSS equipment, and particularly how to operate and test it without transmitting a false alert

j. Require that operators be appropriately certified for the installed equipment

2. Manufacturers, suppliers and installers should:

a. Provide clear and precise operational instructions that are easy to understand (maintenance and operational instructions should be separated, and should be delivered in English and/or any other language deemed necessary)

b. Ensure that supplier and installation personnel understand how GMDSS works, and the consequences of transmitting a false alert

c. Ensure that equipment is designed for distress alerting so:

(1) it will not be possible to transmit an alert unintentionally

(2) the panel for emergency operation is separated from the one for normal operation, is partially fitted with a cover, and has switches classified by coloring

(3) there are standardized arrangements of operation panels and standard operation procedures

d. Design test features so that testing GMDSS equipment will not result in false distress alerts

e. Ensure that when any GMDSS equipment has been installed, necessary instructions are given to appropriate ship personnel, specifically pointing out the operational procedures (log that the instructions have been given)

f. Ensure that any distress alert activation is indicated visually or acoustically, showing that the equipment is transmitting a distress alert, until manually deactivated

g. Implement any appropriate technical and operational measures to avoid unwanted transmission of alerts

h. Ensure that the EPIRB position on board, installations (including the release and activation mechanisms) and handling procedures preclude unwanted activations (design the

EPIRB so that when it is out of its bracket it must also be immersed in water to activate automatically, when operated manually, a two-step activation procedure should be required)

i. Consider EPIRB positions for new ships at early stages of ship design and construction

3. Trainers and educators should:

a. Ensure that maritime education centers are informed and teach about false alert problems and implications to SAR, GMDSS, etc.

b. Obtain and use actual case histories as examples when teaching

c. Emphasize the need to avoid false distress alerts in all maritime training and education

d. Ensure that no inadvertent transmission of false distress alerts should occur when training on GMDSS equipment

4. Users and their employers should:

a. Ensure that all ship personnel responsible for sending a distress alert have been instructed and are competent to operate all radio equipment on the ship

b. Have the person(s) responsible for communications during distress incidents give necessary instructions and information to all crew members who should know how to use GMDSS equipment to send a distress alert

c. Give instruction during each abandon ship drill on how emergency equipment should be used to provide GMDSS functions

d Ensure that GMDSS equipment testing is only undertaken under supervision of the person responsible for communications during distress alerts

f. Ensure that encoded identities of satellite EPIRBS, which are used by SAR personnel responding to emergencies, are properly registered in a database accessible 24 hours per day or automatically provided to SAR authorities (masters should confirm that their EPIRBs have been registered with such a database to help SAR services identify the ship in the event of distress and rapidly obtain other information to help them respond appropriately)

g. Immediately update EPIRB, Inmarsat and DSC registration data and, if necessary, reprogram the GMDSS code, if the ship's ownership, name, flag, or similar information changes

h. Install satellite EPIRBs carefully in accordance with manufacturers' instructions and using qualified personnel. Sometimes satellite EPIRBs are damaged or broken due to improper handling or installation. They must be installed in a proper location to float-free and automatically activate if the ship sinks. Care must be taken that they are not tampered with or accidentally activated. If the coding must be changed or the batteries serviced, manufacturers requirements must be strictly followed. There have been cases of attaching EPIRB lanyards to the ship so the EPIRB cannot float free - the lanyards are only to be used by survivors for securing the EPIRB to a liferaft, lifeboat or person in the water

i. Not activate EPIRBs if assistance is already immediately available (EPIRBs are intended to call for assistance if the ship is unable to obtain help by other means, and to provide position information and homing signals for SAR units)

j. Once an EPIRB is switched on, whether accidentally or intentionally, the ship should make every reasonable attempt to communicate with SAR authorities by other means to advise them of the situation

k. After emergency use, if possible, retrieve and deactivate the EPIRB

l. When an EPIRB is damaged and needs to be disposed of, or if a ship is sold for scrap or for any other reason a satellite EPIRB will no longer be used, ensure that the satellite EPIRB is made inoperable be removing its battery if possible and returning it to the manufacturer, or by demolishing it

m. Take measures, such as wrapping the EPIRB in tin foil, to prevent transmission of signals by EPIRBs during shipment to the manufacturer for any reason.

(Photos courtesy of Groton Pacific C rriers)

ACHILLE LAURO MIRACLE!

The following excerpts a e from the ship's log of the Merchant Tanker Hawaiian King, which recounts the dramatic rescue of 976 passengers and crew members from the Cruise Ship Achille Lauro.

Hours	REMARKS
0400	Cloudy, slight, v ibility good.
0800	Cloudy, sea mod rate, visibility good.
0850	Received emerg icy telex from RCC Stavanger Norw. that passenger ship **ACHILLE LAURO/IBHE** caught fire in position Lat. 0 00 N Long. 052 20 E and needs assist ice urgently
0855	Ship position La 07 37 N Long. 052 30 E change a c irse direct to **ACHILLE LAURO** and increasing speed up to max num. Crew and owner informed relativ and commence preparation for s rbage operation. Trying contact with **ACHILLE LAURO** but negative on VHI Ch. 16, radio operator have continuing ontact on wireless 500 KHZ.
0930	Located the **ACHILLE LAURO** on the ship's radar. We made contact also with another ves el named **M/V BARDU** procee ing to the distress area for assistan e.
1000	All preparation was done by crew; both life boats released from davits. Nets, ropes, various ladders, stretchers, life buoys, first aid kits, etc. were put to use. We make contact with captain of **ACHILLE LAURO** on VHF Ch. 16 for the beginning rescue operation.
1030	Arrived in distress area and commenced rescue operation. Thirteen lifeboats were in the water and many life rafts floating. Weather condition was moderate with a high South West swell. Made a lee way on the port side for embarkation of passengers.
1045	The first passengers were boarding the **HAWAIIAN KING** by port accommodation ladder and other rigged ladders.
1130	The survival operation was in progress on the port side with life boats of the **ACHILLE LAURO.**
1200	The passengers were feeling relief after boarding Most were staying on deck and crew accommodation.
1300	One of 16 life boats has an old man who was dead. My Second Officer used a stretcher and prepared for taking in after completed operation. The boat has been fastened on the ship's rails. At this time, the M/V BARDU has arrived.

1400 The weather has become worse with heavy swells making rescue operations difficult. The boarding passengers have been given fresh water, refreshments and food by the Steward Department. All members of the crew of the **HAWAIIAN KING** working hard to make the embarkation safe. Various movements have been done by the engine.

1700 Ninety Five per cent of the **ACHILLE LAURO** already embarked according to information of the Cruise Director, Mrs. Nadi Eckhart.

1730 Rescue operations completed. CAPT Orsi Giuseppe and crew boarding to **HAWAIIAN KING** and said that no passengers or crew on the **ACHILLE LAURO** had fallen into the sea. Nine hundred and twenty seven passengers and crew had boarded the **HAWAIIAN KING** safely. The other vessel, the **M/V BARDU** had taken 50 persons. Some of the passengers were injured. First aid had been done by the doctors of the **ACHILLE LAURO**. All medicines, including narcotics granted and spent for help in the hospital. During operation we have continuous contact with STAVANGER and later with MRCC ROME for information and orders. Food, water, blankets, refreshments, cigarettes granted to the passengers. All survivors were placed in crew's accommodation, deck accommodation and half part of main deck. Three passengers were seriously injured and many more had minor injuries. For rescue operations, the crew used all means to save the passengers. Cranes were used for the passengers who could not walk. My contact with my owner advised me to do anything for the good of the passengers and crew of the **ACHILLE LAURO**. A U.S. helicopter is on the way to give further medical assistance, together with more blankets and food.

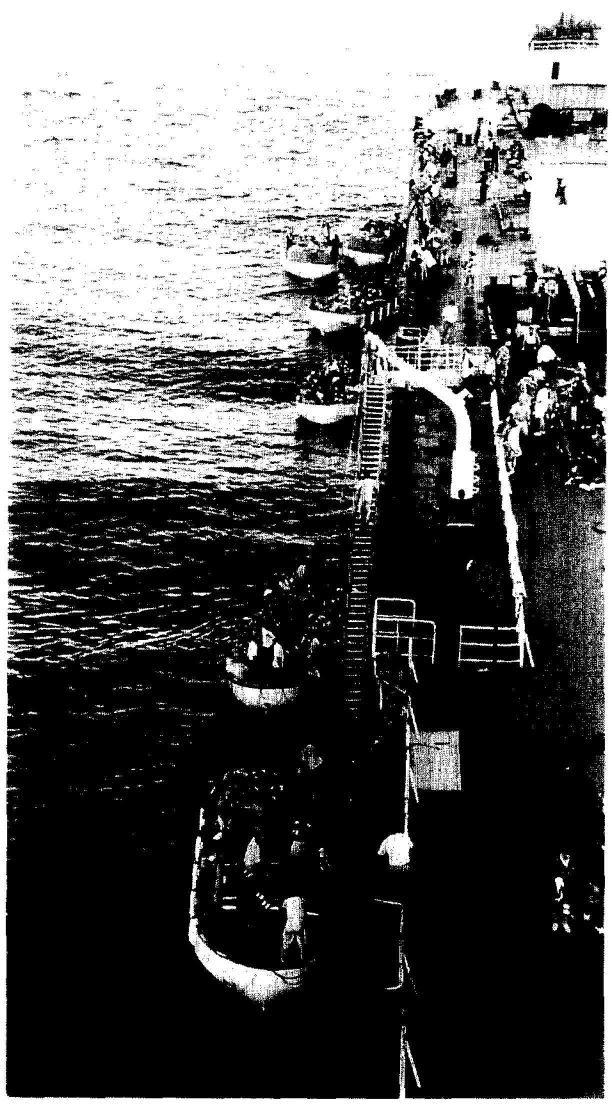
2200 Vessels **M/V CHEVRON PERTH** and **M/V SKS SPIRIT** arrived to render as-

ACHILLE LAURO

sistance. We made contact with a U.S. helicopter P and with assistance ships on CH. 16.

2300 First helicopter dropped medical supplies and necessary items as described above. Kept continuous contact with helicopter which made regular drops until approximately 3 a.m., 1 December.

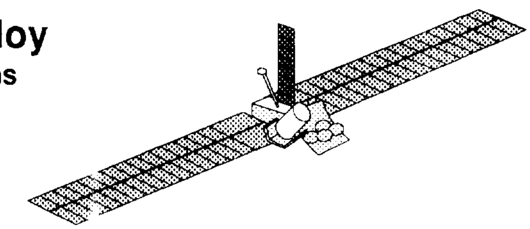
0530 We discussed how to distribute passengers with the number of vessels offering assistance. We made contact with the rescue vessel **USS GETTYSBURG** and **USS HALYBURTON**. They offered to transfer as many of the **ACHILLE LAURO** passengers with the use of the zodiak landing craft. All the other vessels in the area are willing to assist. Thought it was best for the **ACHILLE LAURO** passengers to use the lifeboats on the other rescue vessels since the weather conditions and rough seas did not make it easy for the elderly passengers. We made contact with the following additional vessels: **SKS SPIRIT, CHIOS, CHEVRON PERTH, LUCY, LIMA** and **BARBU**. The United States Coast Guard boarded the **HAWAIIAN KING** and undertook supervision of other assistance vessels.



THE EVOLUTION OF AUTOMATED DISTRESS COMMUNICATIONS

GMDSS: A Work In Progress

Article by **Mike Malloy**
Malloy Communications
Corpus Christi, Texas



Back in 1904 at an international maritime conference, a standard was adopted for signalling a distress call. That standard signal was designated as CQD. If a ship were in distress, instead of calling for help or whatever the radio sender felt like transmitting, he sent a series of CQD's followed by the call sign and present position.

For some reason, the Germans did not like the concept of CQD. They then adopted the distress call of SOE. But the problem with that distress call was the letter E could sometimes be misunderstood, due to the fact that the letter E is just one "dit" in morse code. So in 1908, another meeting was held and the now familiar "SOS" was established.

This adoption of the new distress signal paved the way in 1908 for the Wireless Ship Act, which required U.S. passenger ships to carry wireless communications equipment at all times.

The Titanic sank in 1912. While calling for help, the ship's radio officer sent both SOS and CQD. Even after all the meetings and conferences during this period of history, the SOS signal was not carved in stone. As time passed, SOS on 500 kHz became the standard. The Communications Act of 1934 later required that a radio officer be placed on board any vessel above 1600 tons, and the ship be equipped with radio telegraph equipment.

World War II was the real proving ground for 500 kHz, CW and the role of the radio officer. Many times during this period of conflict, many lives were saved by the heroic efforts of the radio officer pounding out the position and nature of distress. The radio officer was the last crew member off the ship. His job was to stay at his position until the very end to insure the message was sent and received.

As time passed, more international meetings were held concerning safety on the high seas. All communications were still based on manually operated systems. For vessels above 1600 tons, Morse Code sending and receiving systems along with a Morse qualified radio operator were required. For ships whose tonnage was between 300 tons but less than 1600 tons, radiotelephone communications systems were required in order to guard the international voice distress frequency of 2182 Mhz.

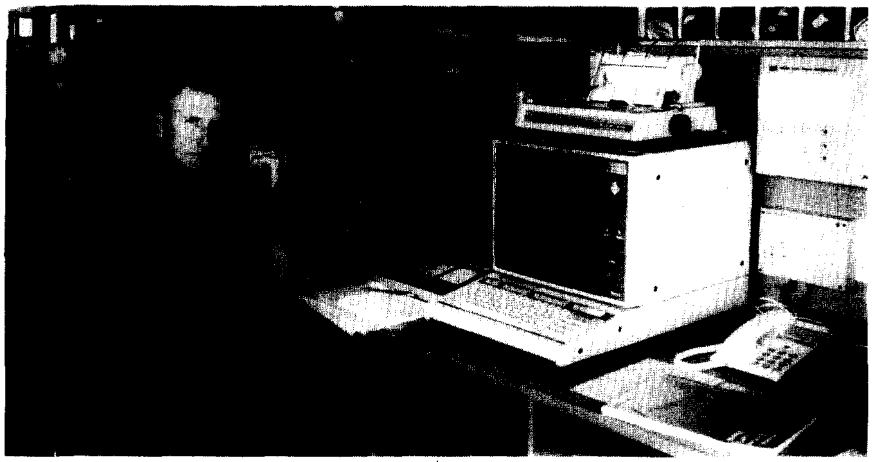
In 1979, the International Maritime Organization (IMO) met and drafted a plan that would take advantage of newer emerging technologies. The meeting was in, effect, the beginning of the end of the radio officer and the 500 kHz distress frequency. Advances in the electronics field, specifically in digital electronics, had made automatic signaling a standard, even back in 1979. Aware of the fact that the maritime industry would not change overnight and technology itself was evolving, the IMO established a time table for these changes beginning in the early 1990s with total compliance required by 1 February 1999.

As of the summer of 1995, radio telegraph and automated signalling, commonly referred to as GMDSS (Global Maritime Distress Safety System) work side by side. The IMO rules allow ships even now who have the proper GMDSS equipment and two individuals on board with the GMDSS operators license, to sail without the radio officer. Thus, all communication is now handled from the bridge by the officer on watch.

In the United States, things are not quite so simple. The Communications Act of 1934 must be amended. Congress must change the rules before the U.S. is able to fully comply with the GMDSS statutes. The recently passed Communications Act of 1995 has little to do with the maritime industry. The thrust of the bill concerns itself with the broadcast industry and telephone companies.

Some of these points support some of my vie

GMDSS LICENSING REQUIREMENTS IN THE UNITED STATES



Author Mike Malloy, who still sails as a ship's Radio Officer, shows off a GMDSS ship's station. Automated communications will become a worldwide maritime requirement on 1 February, 1999. When he's ashore, Mike provides GMDSS license preparation training.

Due to this pending marriage, a blending of technologies is about to unfold. The problem is the competing industries are concerned that another competitor may have the upper hand. Hopefully these conflicts of interest will be resolved.

It is interesting to note in over 200 pages of text, the maritime portion of the bill that makes reference to modifying the Communication Act of 1934 is only one paragraph long!

Due to the change in regulations, maritime companies are now requiring their deck officer to take responsibility for communications on board their ships. The problem with this requirement is that deck officers are trained in the rigors of seamanship and maritime management. Now communications has been added to their duties.

Some deck officers view this additional responsibility as an annoyance, while others have taken a great interest in expanding their repertoire of skills.

Other factors that complicate matters - computers and satellites! To operate under the GMDSS umbrella, the communicator must be skilled not with Morse Code, but DOS and windows. Without knowledge of these two fundamental operating procedures, a GMDSS communicator would be useless.

Satellites are strictly a function of keyboard manipulation. The standard C system is DOS based. The ability to communicate by satellite is easy and instantaneous.

Since technology in communications has advanced so rapidly in recent years, emergency communications can now be sent with the press of one button. This signal will override all other communication signals and the ship in distress will be in immediate contact with a shore based station. Not only is the communication automatic, it also allows the exact positions, with the help of equipment like GPS, to be transmitted at the same time the distress button is pushed.

The deck officers that are now responsible for communications must be trained and licensed to operate this so called "push button" communications system. The IMO allows each nation to develop their own training regime.

Here in the United States, the Federal Communications Commission is responsible for designing and administering the GMDSS License. A potential student must meet certain prerequisites before he/she is able to take the GMDSS examination. Any individual must have taken and passed Element 1 (the FCC calls their test elements). Element 1 is the Marine Radio Operator Permit and consists of 24 questions concerning basic rules and regulations.

The exam also includes questions concerning operating procedures on 2182 Mhz (MF) and 156.8 Mhz (VHF CH. 16). Any commercial examination (Radio Telegraph, Radio Telephone and now the GMDSS) requires Element 1 to be completed. A passing score of 75% or better is required to become certified.

Completing Element 1, the licensee may now move on to Element 7, GMDSS/Operator. This examination is composed of 76 questions. The thrust of this test concerns the operation of a GMDSS station, both under normal communications and worst case scenario. There also questions on SART, SITOR, DSC, and NAVTEX. The GMDSS/O License authorizes an individual to operate any and all GMDSS equipment on board. This license does not grant the owner the ability to open the equipment up and make technical adjustments.

The GMDSS/M (Element 9) allows a technician to go inside and remove/replace components or align a particular circuit. Element 9 is a fifty question test with the bulk of the questions about digital electronics. A student must know how to convert from hexadecimal to binary and back again; and should be able to recognize AND gates, NPN transistors and operational amplifiers. It is exacting in nature and requires a certain degree of technical and mathematical ability.

And some don't. S.B

(Continued from previous page)

The student must also have a general radio telephone license (Elements number 1 and 3, for a total of 100 questions) before sitting for element 9.

Some maritime companies require their deck officers to take Element 9, making them responsible for electronic maintenance. Expecting the deck officer to perform repairs while under way is pushing things a bit too far. Most of them do not have a background in electronics and if asked, will state emphatically they do not want to be responsible for the repair of thousands of dollars worth of equipment.

The reader has probably noted the stiff requirements placed upon the U.S. deck officer. The maritime academies are just now developing a curriculum that will revolve around the new GMDSS program. It places a tremendous burden on the students who are already overloaded with classes in a four year program. Those willing to toil the additional hours in pursuing the FCC GMDSS License (GMDSS/O) will increase their employability. A person with no experience who had a four year degree in Marine Management, a commission as a Third Mate, with the GMDSS Operators License presents a strong package to companies who at present can be highly selective in hiring due to the dwindling job market.

The last few pages have been an overview of how GMDSS is to be implemented in the United States. Most companies are confused or hesitant to begin any movement toward the GMDSS. GMDSS requires ships to be fitted with new equipment and the removal of all the radio telegraph systems. GMDSS also relieves the radio of guarding 500 Khz. Needless to say, the maritime unions are fighting to prevent loss of jobs. However, the end is in sight.

H.R. 3626
103D CONGRESS
2D SESSION

SEC. 408 AUTOMATED SHIP DISTRESS AND SAFETY SYSTEMS

NOT WITHSTANDING ANY PROVISION OF THE COMMUNICATION ACT OF 1934, A SHIP DOCUMENTED UNDER THE LAWS OF THE UNITED STATES OPERATING IN ACCORDANCE WITH THE GLOBAL MARITIME DISTRESS AND SAFETY SYSTEM PROVISION OF THE SAFETY OF LIFE AT SEA CONVENTION SHALL NOT BE REQUIRED TO BE EQUIPPED WITH A RADIO STATION OPERATED BY ONE OR MORE RADIO OFFICERS OR OPERATORS.

You might be surprised to learn GMDSS does not consider voice communications on Ch. 16, (156.8 MHz) and 2.182 MHz (USB) to be part of the distress calling plan. In 1999, all emergency calls will be automated. That is, on VHF, the guard frequency for ships 300 tons and above will be Ch. 70 (156.525 MHz) using Digital Select Call (DSC) as the primary alerting tool. On Medium Frequency (MF) 2187.5 MHz will be employed using DSC as the distress alerting mechanism.

One does not have to be a rocket scientist to see the potential difficulty in this system. For ships under 300 tons (not covered by GMDSS) such as recreational vessels whose owners are unsophisticated with radio equipment, voice communications will still be the primary alerting tool.

After 1999, the Coast Guard may no longer guard Ch. 16, or 2182 MHz, nor will the ships at sea. A safety net that has been working for many years will suddenly disappear. Unless private industry picks up the slack, a large hole will exist. At this point, there is no exact solution.

There are other problems with GMDSS. One problem is that individuals (deck officers) responsible for use of the equipment generally have had minimum training on how things work, or why they work. A classic example is with the DSC. There are numerous problems with using the DSC for the initial alerting of a distress. The DSC works exactly as it is supposed to. The problem is the user. For example, a distress on DSC may initially be sent on 16 Mhz, alerting individuals on the other side of the world that they are in trouble. That action defeats the purpose of the DSC. The correct procedure is to start at 2187.5 Khz, and send a signal. After several attempts with no responses, the deck officer should advance up to 4 or 8 MHz. At some point, a reply will be received. Unfortunately, frequencies are being picked at random, even if the ship is only 1500 miles from a shore based DSC station.

Another problem with the DSC is that deck officers are sending a distress message to alert other ships in lieu of a "test message". This is illegal. No one is enforcing the law at this time though. The reason is there is so much misunderstanding about the GMDSS equipment and how it is to be used that the authorities are at present allowing mistakes to be made, in hope the GMDSS training will reduce these errors to a minimum.

In the past few pages, you have read an overview of how GMDSS is progressing. We have yet to reach our goal of 100% compliance, which will be mandatory in 1999. The GMDSS system is still evolving and is not a completed model. We have time to learn how to use the latest advances in technology and how it applies to safety of life at sea.

□

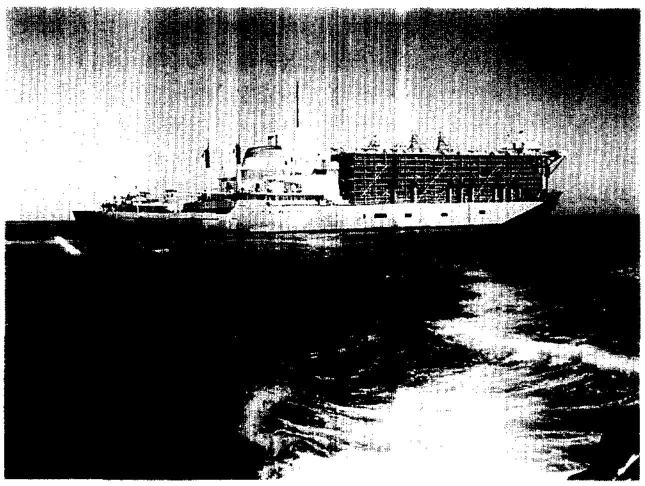
Ship And Sheep To The Rescue!

From India:

On passage from Freemantle (West Australia) to Aqaba, Jordan, our ship, the M/V EL CORDERO, passed through the middle of the South Indian Ocean. The weather was rough, with strong winds and a heavy swell, as is usual during the monsoon season.

At 2320 hours LMT, in position 15 27'S latitude, 091 20'E longitude, the officer of the watch, Amarpal Singh, received a MAYDAY call on CH 16 VHF. He replied immediately and learned the call was from the 37-foot American Yacht SEE ME NOW, with one person aboard.

The Master, CAPT Lionel Coelho was called to the bridge, followed by the by the second Officer, Ali Ashkar. The Captain then summoned Chief Officer Selmon Alexander to organize the rescue.



The EL CORDERO, a livestock carrier, was loaded with sheep and its high deck structure made it difficult to maneuver the vessel in strong winds and swells, but the Captain and Chief Engineer Joshi Ramshanker carefully steered the vessel alongside the stricken yacht.

All deck arrangements were done, and the crew was standing by on deck to provide any assistance required. At 0118 hours, we successfully recovered the 71-year old American, David Clark from the yacht. As he boarded, he was heard to say, "I'm all right now!"

Mr. Clark explained that he had sailed from the east coast of the United States through Panama, to Cocos and Madagascar Islands. His mast had broken in heavy weather and fallen into the sea. All the riggings were fouled around the boat, with the broken mast hitting the boat's side. The boat was unstable and rolling heavily. His fresh water tank washed away and he was out of fuel.

Mr. Clark enjoyed his stay aboard EL CORDERO and the hospitality of CAPT Coelho, the Chilean stockman, and the all-Indian crew. It is important to mention that our vessel is an AMVER participant!

ALI ASHKAR
Bombay, India

Old AMVER BULLETIN Sparks Response!

From Romania:

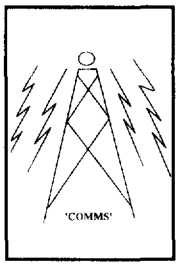
I am a Romanian Second Assistant Engineering Officer. 30 years old, with more than seven years of experience in deep sea navigation. After six years in the Romanian merchant fleet, in the last few months I have been employed on a Cypress-flag, Greek-owned bulk carrier. It is there that I recently found (forgotten in a drawer) an old issue, No. 3-82, of your AMVER BULLETIN.

For those of us who sail, sometimes on nothing more than old rust buckets, it is moving to find out that someone in this mercantile world is taking care of the safety of navigation and in fact, of our lives!

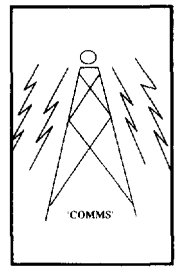
I should like to express in this short letter, on the part of all the officers and crew of the M/V IONIAN CORAL, all of our esteem and appreciation for the staff in the so-noble mission of AMVER! God Bless You!

Obviously, I would be extremely glad if you would condescend to put me on your regular mailing list.

Sorin C. Cobzaru
Galati, Romania



For The Information Of Radio Officers:
COMMUNICATIONS CHARTS



The AMVER BULLE IN supplies these radio frequencies for the convenience of our readers. The frequencies are subject to change. W ile we make every effort to insure the timeliness of these listings, the AMVER BULLETIN cannot guarantee the accuracy. All changes to or inaccuracies found on these pages should be forwarded to the address shown on the back cover of this magazine.

ATLANTIC AREA CHARTS

***NOTE: ALL 500 KHZ DISCONTINUED AS OF 1 AUG 1993**

ALL COUNTI UOUS WAVE DISCONTINUED AS OF 1 APRIL 1995

NMF BOSTON, MA.

SSB VOICE FREQUENCIES

(Car er Frequency Shown In Khz)

SHIP	COAST	TIMES
413 Khz	4426 Khz	2300 - 1100
620 Khz	6501 Khz	24 HRS
824 Khz	8764 Khz	24 HRS
122 Khz	13089 Khz	1100 - 2300

DIGITAL SELECT CALLING

(Ass gned frequency shown in Khz) (ALL TIMES)

SHI COAST (SIMPLEX)

218

420

631

841

125 0

168 5

NMN CHESAPEAKE, VA.

SSB VOICE FREQUENCIES

(Car er Frequency Shown in Khz)

SHIP	COAST	TIMES
413	4426	2300 - 1100
620	6501	24 HRS
824	8764	24 HRS
122 *	13089	1100 - 2300
164 **	17314	O/R

NOTE: *** Als monitored remotely from Miami 24 HRS.**

**** On request from Chesapeake fron Miami 24 HRS.**

DIRECT PRINTING RADIOTELETYPE

(Ass ned Frequency Shown in Khz)

SEL ALL 1097

SHIP	COAST	TIMES
4174	4412	O/R
6264	6316	1100 - 2300
8388	8428	24 HRS
1249	12592.5	24 HRS
1669 5	16819 5	24 HRS
2229 5	22389 5	2300 - 1100

NMG NEW ORLEANS, LA.

SSB VOICE FREQUENCIES

(Carr er Frequency Shown In Khz) (All times)

SHIP	COAST
4134	4426
6200	6501
8240	8764
1224	13089